CAMP FOUR ECHOES GIRL SCOUTS (PWS #1280028)
SOURCE WATER ASSESSMENT REPORT

November 4, 2002

State of Idaho
Department of Environmental Quality

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality (DEQ) is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within a 1,000 foot radius of your drinking water source, sensitivity factors associated with the source, and characteristics associated with either your aquifer or watershed in which you live.

This report, *Source Water Assessment for Camp Four Echoes Girl Scouts (PWS #1280028),* located in Windy Bay on Lake Coeur d'Alene in Kootenai County, Idaho, describes the public drinking water system, the associated potential contaminant sources located within a 1,000 foot boundary around the drinking water source, and the susceptibility (risk) that may be associated with any potential contaminants. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this system. **The results should <u>not</u> be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

The Camp Four Echoes Girl Scouts drinking water system consists of one well, designated Well 3. Drilling of the well was completed in April of 1997 to replace the system's prior well that had a history of bacteriological contamination. Well 3 is 280' deep. The casing extends 24" above ground then passes through layers of clay, sand, and basalt before terminating in a layer of blue clay. Water was encountered between 232' and 243'. The well uses a 6-inch casing. The Idaho Department of Water Resources (IDWR) *Well Construction Standards Rules (1993)* require all public water systems (PWSs) to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works (1997)* during construction. Various aspects of the standards can be assessed from well logs. Table 1 of the *Recommended Standards for Water Works (1997)* states that 6-inch steel casing requires a thickness of 0.280 inches. Well 3's casing is 0.250 inches thick and therefore does not meet today's IDWR's standards. The casing is topped with a watertight well cap and was sealed to a depth of 55' with bentonite. The seal extends to a layer of clay and basalt. At the time of the well's 2001sanitary survey, the wellhead and surface seal had been maintained appropriately. The well is located outside the100-year floodplain and is protected from runoff. It was assigned a low system construction score.

The well was also assigned a low hydrologic sensitivity score. It is located in an area of generally poorly drained soils that provide protection against contaminants moving underground. Clay layers in the first 200' of the well that will slow the infiltration of contaminants from above. The well is located more than 1000' from the edge of the lake and is not influenced by surface water.

The well received low potential contaminant/land use scores in all chemical categories. There are two known potential contaminant sites located within the well's source water assessment area. These sites are related to waste disposal and have been in Table 1.

Table 1.

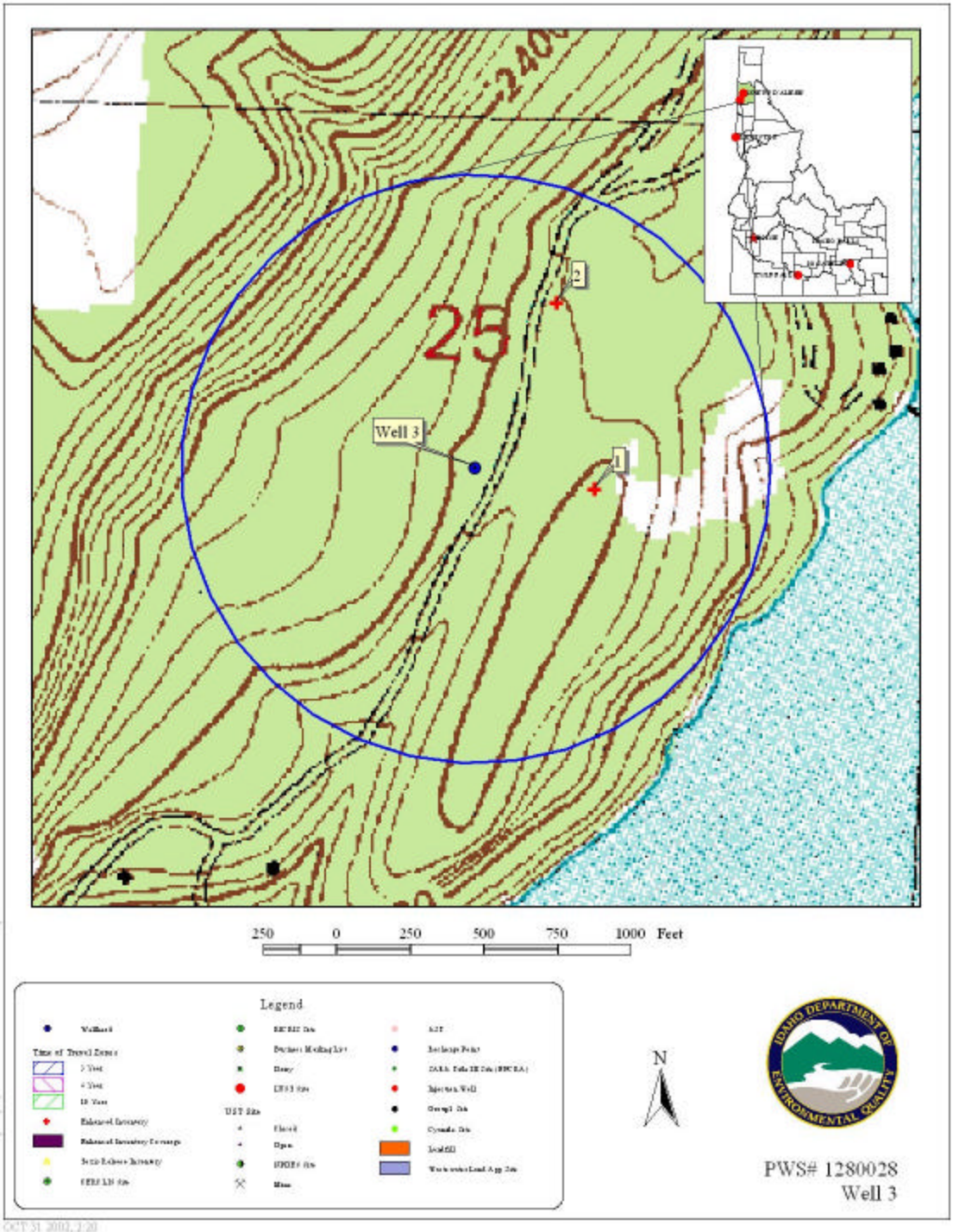
SITE #	Source Description	Source of Information	Potential Contaminants[1]
1	Septic and Drainfield	Enhanced Inventory	IOC, Microbial
2	Drainfield	Enhanced Inventory	IOC, Microbial

[1]IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

The Camp Four Echoes Girl Scouts water system samples for total coliform quarterly. There have been no positive samples since the drilling of the well. The system also samples for nitrate annually, with samples showing nitrate to be non-detectable. The maximum contaminant level for nitrate is 10mg/L.

The well received an overall susceptibility ranking of low in all chemical categories. A copy of the susceptibility analysis for your system along with a map showing any potential contaminant sources is included with this summary.

Figure 1. Camp Four Echoes Delineation Map and Potential Contaminant Source Locations



This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Camp Four Echoes Girl Scouts should focus drinking water protection activities on maintaining current water quality. This can best be achieved by continuing to operate the water system in compliance with the *Idaho Rules for Public Drinking Water Systems.* Additionally, the water system should consider developing a drinking water protection plan that addresses public education, management of potential contaminant sites and contingency planning. Local residents, campers and employees should be made aware of the location of the well and the location of the well's source water assessment area. They should be advised of methods for the proper disposal of household hazardous wastes in these areas. This can be done in the form of posters or flyers distributed throughout the area or by interactive programs offered to campers regarding drinking water quality. The waste disposal systems located within the well's source water assessment area must be maintained and operated in a way that reduces the risk of contamination of the water system. Information regarding septic system maintenance can be obtained from Panhandle Health District. The well's source water assessment area should be considered when siting any new waste disposal systems, roads and buildings. The water system should draw up a contingency plan that outlines emergency response activities and identifies an alternative source of water should one become necessary. An outline for emergency response activities can be found on IDEQ's website at www.deq.state.id.us/water/water1.htm. The water system may want to establish a dialogue with the state and local agencies related to developing their plan. Drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

For assistance in developing drinking water protection (formerly wellhead protection) strategies please contact Rich Molsby at the Coeur d'Alene regional IDEQ office at (208) 769-1422 or Melinda Harper of Idaho Rural Water Association at 1-800-962-3257.

Attachment A

Camp Four Echoes
Susceptibility Analysis
Worksheet

Ground Water Susceptibility Report Public Water System Name : CAMP FOUR ECHOES GIRL SCOUTS Well# : WELL 3

Public Water System Number 1280028 11/4/2002 11:03:06 AM

1. System Construction		SCORE
Drill Date	4/11/1997	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES	2001
Well meets IDWR construction standards	NO	1
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	YES	0
Highest production 100 feet below static water level	YES	0
Well located outside the 100 year flood plain	YES	0
Total System Construction Score		1

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	NO	0
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	YES	0
Total Hydrologic Score		1

3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	2	0	0	2
(Score = # Sources X 2) 8 Points Maximum		4	0	0	4
Sources of Class II or III leachable contaminants or	YES	2	0	0	
4 Points Maximum		2	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		6	0	0	4
Cumulative Potential Contaminant / Land Use Score		6	0	0	4
4. Final Susceptibility Source Score		4	2	2	4
5. Final Well Ranking		Low	Low	Low	Low

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.375)

Ground Water Final Susceptibility Scoring

0-5 = Low Susceptibility

6-12 = Moderate Susceptibility

> 13 = High Susceptibility

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (IDEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by IDEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.